

REMARKS

By this amendment, claims 1-26 have been deleted and replaced with new claims 27-51.

The new claims clearly distinguish the cited references by being drawn to the configuration shown schematically in Figures 3, 4, 5, and 15 of the drawings wherein while the hoist rope sheaves are spaced, they are spaced in a direction inclined to a longitudinal axis of the booms of the booms of the cited references. New claims 27 and 47 recite a boom sheave support arm mounted adjacent a free end of the excavator boom to support an outer boom sheave to one side of the longitudinal axis of the boom.

Claim rejections – 35 U.S.C. § 102. The Office Action rejected claims 1-9, 11 and 21-26 under Section 102(b) as being anticipated by Little (US 1,095,355). Claims 1-5, 11, 21-24, and 26 were rejected under Section 102(b) as being anticipated by Smith (US 2,120,444). Applicants submit that the amended claims recite features and limitations that are not taught or suggested by Little or Smith. Accordingly, the claims are not anticipated by either Little or Smith.

As described in some detail in the passages on pages 1-4 of the subject specification, it is possible to effect maintenance of bucket carry angle and dumping of a bucket by independent control of the front and rear hoist ropes, particularly as described in Smith '444 which has separate cable winding drums 23, 26 which can be utilized to control both carry attitude and bucket dumping. Little '335 on the other hand describes a more conventional drag line system having independently controllable hoist drums 13,16 which could be used to control both transport attitude and dumping of the bucket.

Both of the above prior art references are totally silent as to how transport attitude may be controlled between the extended and retracted positions of the bucket under the influence of a drag rope and both are silent as to the manner in which the respective tensions in the front and rear hoist ropes and the drag rope are controlled as the bucket moves along its transport trajectory between the innermost and outermost positions.

In both Little '335 and Smith '444 the front and rear hoist ropes are not substantially parallel as the bucket moves from an inner retracted position along its transport trajectory to a dumping position as in the case of Little, support sheaves 30a, 31a are spaced along an upwardly inclined longitudinal axis of the excavator boom whilst the hoist rope support points on the



bucket are positioned in a generally horizontal plane whereby the lineal spacing between the support points on the bucket and the lineal spacing between sheaves 30a, 31a in a horizontal plane are substantially different and shown in Figure 1.

When the bucket of Little '335 has reached the end of its excavating path under the influence of drag rope 29, the bucket will be suspended in mid air with a forwardly inclined tilt which translates to a rearwardly inclined tilt in the configuration shown as the bucket moves out to the outer dump position as shown in phantom. This problem of optimizing the bucket transport angle throughout its suspended transport trajectory to avoid spillage of the bucket contents is indeed the problem sought to be overcome by the subject invention which achieves its objective by maintaining the front and rear hoist ropes in a substantially parallel configuration throughout the bucket travel trajectory. This is achieved by supporting the outer boom sheave on a boom support arm at an angle to the longitudinal axis of the boom whereby the upper and lower support points define the corners of a substantially true parallelogram.

In both Little '335 and Smith '444 the movement of the bucket along the travel trajectory under the influence of the drag rope will permit tilting of the excavator bucket at the opposite ends of the trajectory path. Neither Little '335 nor Smith '444 describes a bucket support configuration wherein the bucket transport attitude is maintained in an optimum state by maintaining the substantially parallel relationship between the front and rear hoist ropes without the need to manipulate the respective links thereof and thereby risk over-tensioning of the hoist end or drag ropes in use.

In view of the foregoing, Applicants respectfully submit that the pending claims are not anticipated by Little '335 or Smith '444. Withdrawal of the rejection and allowance of the pending claims is respectfully requested.

Claim Rejections – 35 U.S.C. § 103. The Office Action rejected claim 10 under Section 103(a) as being unpatentable over Little '355 in view of Baron (US 4,509,895). New claim 37 corresponds to former claim 10. Applicants submit that claim 37 is clearly distinguished from the combined prior art in view of the distinctive structural and functional limitations recited in new claim 27. Withdrawal of the rejection under Section 103(a) is respectfully requested.

Applicants submit that the pending claims are in condition for allowance. After considering this matter, if there are any issues preventing allowance of the pending claims, the Examiner is respectfully requested to telephone the undersigned.

Respectfully submitted,



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